

Appendix E1

PET Brain Imaging

First, the PET data were aligned onto the corresponding T1-weighted structural MR image, and subsequently, both MR and PET images were spatially normalized to the standard Montreal Neurological Institute space. The maximum probabilistic atlas by Hammers (N30R83) (29) was applied to the normalized ^{18}F -fluorodeoxyglucose PET images and standardized uptake values were extracted for different brain regions. Standardized uptake values were calculated by normalizing the uptake values according to the injected dose divided by the subject weight.

Table E1. Modified Harris Hip Score

Criterion	Score
Pain	
None, or patient ignores it	44
Slight, occasional, no compromise in activity	40
Mild pain, no effect on average activities, rarely moderate pain with unusual activity, may take aspirin	30
Moderate pain, tolerable but patient makes concessions to pain. Some limitations of ordinary activity or work. May require occasional medication stronger than aspirin	20
Marked pain, serious limitation of activities	10
Totally disabled, crippled, pain in bed, bedridden	0
Limp	
None	11
Slight	8
Moderate	5
Severe or unable to walk	0
Support	
None	11
Cane for long walks	7
Cane most of the time	5
One crutch	3
Two canes	2
Two crutches or not able to walk	0
Distance walked	
Unlimited	11
Six blocks	8
Two or three blocks	5
Indoors only	2
Bed and chair only	0
Stairs	
Normally without use of railing	4
Normally using a railing	2
In any manner	1
Not able	0
Shoes and socks	
With ease	4

With difficulty	2
Unable to fit or tie	0
Sitting	
Comfortably, ordinary chair for 1 hour	5
On a high chair for 30 minutes	3
Unable to sit comfortably on any chair	0
Public transportation	
Able to use	1
Unable to use	0

Table E2. Abnormal Findings at Clinical Examinations and MR Imaging

Patient ID	Symptoms			MR imaging Findings			Asymptomatic Finding
	Brain	Bone	Heart	Brain	Bone	Heart	
1	No	Yes	No	Yes	Yes	No	Yes
2	No	Yes	No	Yes	Yes	No	Yes
3	No	Yes	No	No	No	No	No
4	Yes	No	No	Yes	Yes	No	Yes
5	No	No	No	No	Yes	No	Yes
6	Yes	No	No	Yes	Yes	No	Yes
7	Yes	No	No	Yes	No	No	No
8	Yes	No	No	No	No	No	No
9	Yes	Yes	Yes	No	No	Yes	No
10	No	Yes	No	Yes	No	No	Yes

Table E3. Clinical Assessment of the Brain, Heart, and Bone

ID	Neurocognitive Symptoms			Modified Harris Hip Score				New York Heart Failure Classification			
	Headache	Memory Loss	Learning Difficulty	Pain	Function	Activity	Total	Score	Subjective*	Objective†	Score
1	No	No	No	20	33	14	67	3	I	A	1
2	No	No	No	30	26	14	70	3	I	A	1
3	No	No	No	20	33	14	67	3	I	A	1
4	No	Yes	No	44	33	14	91	1	I	A	1
5	No	No	No	44	33	14	91	1	I	A	1
6	Yes	No	No	44	33	14	91	1	I	A	1
7	No	Yes	Yes	44	33	14	91	1	I	A	1
8	No	Yes	No	44	33	14	91	1	I	A	1
9	Yes	No	No	44	30	14	88	2	I	B	2
10	No	No	No	40	33	14	87	2	I	A	1

* New York Heart Failure subjective classification is on a scale of I–IV.

† New York Heart Failure objective classification is on a scale of A–D

Table E4. Number of Cancer Survivors with Pathologic Findings on Brain Images

Sequence	Pathologic Findings	Normal Findings	Total
Inversion-recovery prepared spoiled gradient echo	6	4	10
Three-dimensional T2-weighted FLAIR three-dimensional single-slab fast spin echo	6	4	10
3D quantitative susceptibility mapping	0	10	10

Table E5. Number of Osteonecrotic Lesions per Patient on Bone Images

ID	Coronal T1-w eighted Fast Spin Echo	Coronal Short T1 Inversion Recovery	Coronal Diffusion- w eighted Imaging	PET
1	8	8	5	0
2	7	7	6	2
4	3	2	0	0
5	3	1	0	0
6	4	4	1	1
Total	25	22	12	3